

AAY96864  
ID AAY96864 standard; protein; 370 AA.  
XX  
AC AAY96864;  
XX  
DT 26-SEP-2000 (first entry)  
XX  
DE SEQ. ID. 37 from WO0034474.  
XX  
KW Vascular endothelial growth factor; homologue; zvegf3; CUB domain;  
KW Cysteine knot; platelet-derived growth factor; PDGF; neuropilin;  
KW chromosome 4q28.3; cytostatic; anti-psoriatic; anti-inflammatory;  
KW anti-diabetic; ophthalmological; anti-rheumatic; anti-arthritic;  
KW vulnerary.  
XX  
OS Homo sapiens.  
XX  
PN WO200034474-A2.  
XX  
PD 15-JUN-2000.  
XX  
PF 07-DEC-1999; 99WO-US028968.  
XX  
PR 07-DEC-1998; 98US-00207120.  
PR 06-JUL-1999; 99US-0142576P.  
PR 21-OCT-1999; 99US-0161653P.  
PR 12-NOV-1999; 99US-0165255P.  
XX  
PA (ZYMO ) ZYMOGENETICS INC.  
XX  
PI Gao Z, Hart CE, Piddington CS, Sheppard PO, Shoemaker KE;  
PI Gilbertson DG, West JW;  
XX  
DR WPI; 2000-423420/36.  
DR N-PSDB; AAA51541.  
XX  
PT Novel zvegf3 polypeptides and nucleotides encoding them useful for  
PT stimulating growth of smooth muscle cells and fibroblasts comprising an  
PT epitope bearing portion of a specific amino acid sequence.  
XX  
PS Disclosure; Page 164-165; 173pp; English.  
XX  
CC Polypeptides comprising an epitope-bearing portion human or murine ZVEGF3  
CC (vascular endothelial growth factor homologue) are claimed. The growth  
CC factors comprise a growth factor domain and a CUB domain (generic  
CC sequence motifs are shown in AAY96859 and AAY96860). The growth factor  
CC domain is characterized by an arrangement of cysteine residues and beta-  
CC strands that is characteristic of the "cysteine knot" structure of the  
CC platelet-derived growth factor (PDGF) family. The CUB domain shows  
CC homology to CUB domains in neuropilins, human bone morphogenetic protein-  
CC 1, porcine seminal plasma protein, bovine acidic seminal fluid protein  
CC and Xenopus laevis tolloid-like protein. Structural analysis and homology  
CC predict that ZVEGF3 polypeptides complex with a second polypeptide to  
CC form multimeric proteins. The human zvegf3 gene has been mapped to  
CC chromosome 4q28.3. ZVEGF3 is useful for stimulating the growth of  
CC fibroblasts or smooth muscle cells, for activating cell surface PDGF-  
CC alpha receptor and for inhibiting PDGF-alpha receptor mediated cellular

CC processes. ZVEGF3 is useful for regulating (post-development) organ  
CC growth, regeneration and maintenance, as well as tissue maintenance and  
CC repair processes. ZVEGF3 antagonists are useful for treating cancer,  
CC rheumatoid arthritis, diabetic retinopathy, ischemic limb disease,  
CC peripheral vascular disease, myocardial ischemia, vascular intimal  
CC hyperplasia, atherosclerosis, wound healing, chronic liver disease and  
CC haemangioma formation. ZVEGF3 can also be used to modulate neurite growth  
CC and development of the nervous system, and for treating neurodegenerative  
CC diseases

XX

SQ Sequence 370 AA;

Query Match 100.0%; Score 1994; DB 3; Length 370;  
Best Local Similarity 100.0%; Pred. No. 6.1e-189;  
Matches 370; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MHRLIFVYTLICANFCSCRDTSATPQSASIKALRNANLRRDESNHLDLYRRDETIQVK 60  
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||

Db 1 MHRLIFVYTLICANFCSCRDTSATPQSASIKALRNANLRRDESNHLDLYRRDETIQVK 60  
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||

Qy 61 NGYVQSPRFPSYPRNLLLTWRLHSQENTRIQLVFDNQFGLLEEAENDICRYDFVEVEDIS 120  
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||

Db 61 NGYVQSPRFPSYPRNLLLTWRLHSQENTRIQLVFDNQFGLLEEAENDICRYDFVEVEDIS 120  
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Qy 121 ETSTIIRGRWCGHKEVPPRIKSRTNQIKITFKSDDYFVAKPGFKIYYSLLEDQPAASE 180  
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||

Db 121 ETSTIIRGRWCGHKEVPPRIKSRTNQIKITFKSDDYFVAKPGFKIYYSLLEDQPAASE 180  
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||

Qy 181 TNWESVTSSISGVSYNSPSVTDPTLIADALDKKIAEFDTVEDLLKYFNPESWQEDLENMY 240  
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||

Db 181 TNWESVTSSISGVSYNSPSVTDPTLIADALDKKIAEFDTVEDLLKYFNPESWQEDLENMY 240  
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||

Qy 241 LDTPRYGRSYHDRSKVLDRLNDDAKRYSCTPRNYSVNIREELKLANVFFPRCLLVQ 300  
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||

Db 241 LDTPRYGRSYHDRSKVLDRLNDDAKRYSCTPRNYSVNIREELKLANVFFPRCLLVQ 300  
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Qy 301 RCGGNCGCGTVNWRSCCTNSGKTVKKYHEVLQFEPGHIKRRRAKTMALVDIQLDHHERC 360  
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||

Db 301 RCGGNCGCGTVNWRSCCTNSGKTVKKYHEVLQFEPGHIKRRRAKTMALVDIQLDHHERC 360  
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Qy 361 DCICSSRPPR 370  
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Db 361 DCICSSRPPR 370

ABG92893  
ID ABG92893 standard; protein; 370 AA.  
XX  
AC ABG92893;  
XX  
DT 19-NOV-2002 (first entry)  
XX  
DE Human VEGF-like protein zvegf 4.  
XX  
KW VEGF; vascular endothelial growth factor; zvegf 3; human;  
KW chromosome 4q28.3; cell proliferation; differentiation; metabolism;  
KW migration; revascularisation; solid tumour; diabetic retinopathy;  
KW psoriasis; rheumatoid arthritis; cancer; autoimmune disease;  
KW inflammation; myocardial ischaemia; scleroderma; fibrosis;  
KW glomerulosclerosis; atherosclerosis; skin wound; ulcer; burn;  
KW skin grafting; female reproductive tract disorder; chronic liver disease;  
KW circulatory disorder; heart failure; neurodegenerative disease;  
KW multiple sclerosis; Parkinson's disease; Alzheimer's disease; stroke;  
KW neurite outgrowth.  
XX  
OS Homo sapiens.  
XX  
PN US6432673-B1.  
XX  
PD 13-AUG-2002.  
XX  
PF 07-DEC-1999; 99US-00457066.  
XX  
PR 07-DEC-1998; 98US-0111173P.  
PR 06-JUL-1999; 99US-0142576P.  
PR 21-OCT-1999; 99US-0161653P.  
PR 12-NOV-1999; 99US-0165255P.  
XX  
PA (ZYMO ) ZYMOGENETICS INC.  
XX  
PI Gao Z, Hart CE, Piddington CS, Sheppard PO, Shoemaker KE;  
PI Gilbertson DG, West JW;  
XX  
DR WPI; 2002-689759/74.  
DR N-PSDB; ABS68643.  
XX  
PT Novel polypeptide, designated zvegf3 useful for treating skin wounds,  
PT ulcers, burns, skin grafting, female reproductive tract disorders,  
PT Parkinson's disease, and Alzheimer's disease.  
XX  
PS Disclosure; Col 95-98; 68pp; English.  
XX  
CC The invention relates to an isolated polypeptide, designated zvegf3 (a  
CC vascular endothelial growth factor-like protein) of 111-136 amino acid  
CC residues in length and comprises the sequence appearing as ABG92889 from  
CC amino acid residues 235-345. Also included are an isolated protein  
CC comprising a first polypeptide disulphide bonded to a second polypeptide,  
CC where each of the first and second polypeptides is from zvegf 3, and  
CC where the protein modulates cell proliferation, differentiation,  
CC metabolism or migration, the zvegf 3 encoding polynucleotides and zvegf 3  
CC expression vectors and host cells. Zvegf 3 is useful as additives in  
CC tissue adhesives for promoting revascularisation of the healing tissue,

CC for designing molecules that antagonise semaphorin-stimulated activities,  
CC including neurite growth, cardiovascular development, cartilage and limb  
CC development, and T and B-cell function, and for imaging tumours or other  
CC sites of abnormal cell proliferation and in gene therapy applications.  
CC The proteins are useful therapeutically to stimulate tissue development  
CC or repair, or cellular differentiation or proliferation, for stimulating  
CC the growth of fibroblast or smooth muscle cells, as molecular weight  
CC standards, as reagents in assays for determining circulatory level of the  
CC protein or as standards in the analysis of cell phenotype, for  
CC identifying inhibitors of their activity which are useful for reducing  
CC the growth of solid tumours, for treating diabetic retinopathy,  
CC psoriasis, rheumatoid arthritis, various forms of cancers, autoimmune  
CC disease, inflammation, myocardial ischaemia, scleroderma, and reducing  
CC fibrosis, including scar formation, keloids, liver fibrosis, lung  
CC fibrosis (e.g. silicosis, asbestosis), kidney fibrosis (including  
CC diabetic nephropathy), glomerulosclerosis, atherosclerosis, skin wounds,  
CC ulcers, burns, skin grafting, and female reproductive tract disorders,  
CC chronic liver disease (hepatitis), cirrhosis, Reye's syndrome, Wilson's  
CC disease, circulatory disorders e.g. heart failure, hepatic or portal vein  
CC thrombosis, cardiac sclerosis, neurodegenerative diseases such as  
CC multiple sclerosis, Parkinson's disease, Alzheimer's disease, and for  
CC regenerating neurite outgrowths following strokes. The gene for human  
CC zvegf3 is located on chromosome 4q28.3. The present sequence represents  
CC zvegf 3  
XX  
SQ Sequence 370 AA;

Query Match 100.0%; Score 1994; DB 5; Length 370;  
Best Local Similarity 100.0%; Pred. No. 6.1e-189;  
Matches 370; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MHRLIFVYTLICANFCSCRDTSATPQSASIKALRNANLRRDESNHLDLYRRDETIQVK 60  
||| |||||  
Db 1 MHRLIFVYTLICANFCSCRDTSATPQSASIKALRNANLRRDESNHLDLYRRDETIQVK 60  
  
Qy 61 NGYVQSPRFPNSYPRNLLLTWRLHSQENTRIQLVFDNQFGLLEAENDICRYDFVEVEDIS 120  
||| |||||  
Db 61 NGYVQSPRFPNSYPRNLLLTWRLHSQENTRIQLVFDNQFGLLEAENDICRYDFVEVEDIS 120  
  
Qy 121 ETSTIIIRGRWCGHKEVPPRIKSRTNQIKITFKSDDYFVAKPGFKIYYSLLEDQPA 180  
||| |||||  
Db 121 ETSTIIIRGRWCGHKEVPPRIKSRTNQIKITFKSDDYFVAKPGFKIYYSLLEDQPA 180  
  
Qy 181 TNWESVTSSISGVSYNSPSVTDP TLIA DALDKKIAE FDTVEDLLKYFNPESWQEDLEN 240  
||| |||||  
Db 181 TNWESVTSSISGVSYNSPSVTDP TLIA DALDKKIAE FDTVEDLLKYFNPESWQEDLEN 240  
  
Qy 241 LDTPRYRGRSYHDRSKVLDRLNDDAKRYSCTPRNYSVNIREELKLANVFFPRCLLV 300  
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Db 241 LDTPRYRGRSYHDRSKVLDRLNDDAKRYSCTPRNYSVNIREELKLANVFFPRCLLV 300  
  
Qy 301 RCGGNCGCGTVNWRSCTCNSGKTVKKYHEVLQFEPGHIKRRGAKTMA LVDIQLDH 360  
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Db 301 RCGGNCGCGTVNWRSCTCNSGKTVKKYHEVLQFEPGHIKRRGAKTMA LVDIQLDH 360  
  
Qy 361 DCICSSRPPR 370  
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Db

361 DCICSSRPPR 370